

U.S.S.N. 10/800,841
Response to Office Action mailed 12/13/2006

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REMARKS

Reconsideration of the above-identified application in view of the amendments above and remarks below is respectfully requested.

Claims 1-53 are currently pending. Claims 14 and 40 have been amended herein.

Claims 14-28 and 40-44 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejection is respectfully traversed.

In response, applicants have amended claims 14 and 40 to include monofunctional mercaptan. Reconsideration of the rejection is respectfully requested.

Claims 1, 4, 5, 7, 8, 11-20, 23-29, 32, 33, 35, 36, 39-45, 48-50, and 53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuo *et al.* (US 6,534,598) in view of JP 20-75669. The rejection is respectfully traversed.

Specifically, the office action states that Kuo *et al.* teach an ambient oxidative cure composition based on an acrylate functional-alkyd resin and teach employing various additives. The office action additionally states that JP 20-75669 teaches the addition of a silane having a mercapto group that can be added to a cure, and concludes that the combination of JP 20-75669 with Kuo *et al.* teach applicants' invention.

In response, applicants state that Kuo *et al.* do not teach or suggest the addition of monofunctional mercaptans to acrylate-functional alkyd resins or that such addition results in a composition having stable viscosity and molecular weight over time, without causing detrimental effects on the dry times of the coating films. At col. 6, line 34, Kuo *et al.* refer generally to additives for the coating composition to aid in applying the coating. This differs from the present application where the monofunctional mercaptans are added to the resin itself, to enhance its storage stability, so that it has the appropriate molecular weight and viscosity when it is later

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pulled off the shelf for use in a coating composition. Kuo *et al.* do not teach or suggest adding monofunctional mercaptans to the resin or that such addition would enhance the resin's storage stability. In other words, as the resin of Kuo *et al.* ages in a can, there are no additives present to stabilize it.

To illustrate the stability of applicants' resins, the Examples contained in the present application illustrate that the addition of monofunctional mercaptans prevents viscosity increase and prevents molecular weight increase of stored resin without detrimentally effecting the dry times of the coating films. In these Examples, the "control" resin contains no monofunctional mercaptan and is representative of the resins taught by Kuo *et al.* which patent is commonly owned herewith. In Table 1 of the application, various mercaptans, especially IOMP, stabilizes the molecular weight (MW) of the resin over time. A summary of this test result of IOMP, taken directly from Table 1, is set forth below.

| Stabilizer | Initial MW | MW after 1 week | MW after 2 weeks | MW after 3 weeks |
|---------------------|------------|-----------------|------------------|------------------|
| 0.1% IOMP mercaptan | 11,043 | 11,249 | 11,470 | 11,399 |
| control | 11,043 | 31,126 | 56,297 | 106,931 |

Table 2 of applicants' specification illustrates how various mercaptans, especially IOMP stabilizes the viscosity (VIS) of the resin over time. A summary of this test result, taken directly from Table 2, is set forth below.

| Stabilizer | Initial VIS | VIS after 1 week | VIS after 2 weeks | VIS after 3 weeks |
|---------------------|-------------|------------------|-------------------|-------------------|
| 0.1% IOMP mercaptan | 9,800 | 6,800 | 8,410 | 7,400 |
| control | 8,300 | 10,400 | 27,000 | 37,500 |

Even with the stabilized molecular weight and viscosity over time, the dry time of the resin was not adversely affected over time. Table 7 of applicants' specification illustrates how

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the set to touch time of paint samples was not adversely affected by the addition of IOMP. A summary of this test result, taken directly from Table 7, is set forth below.

| Paint sample | 1 day | 2 weeks | 9 weeks |
|--------------|-------|---------|---------|
| Control | 2:15 | 2:00 | 1:50 |
| 250 ppm IOMP | 2:15 | 2:00 | 1:50 |

JP 20-75669 does not solve the deficiency of Kuo *et al.* and also does not teach or suggest adding its silane having a mercapto group to a resin. At most the combination would add the silane of JP 20-75669 to coatings containing the resin of Kuo *et al.* but would not solve the storage issue surrounding the resins of the reference.

In light of the above amendments and remarks, it is respectfully submitted that the pending claims of the present application are in condition for allowance. If it would be of assistance with this application, the examiner is invited to contact the undersigned.

Respectfully submitted,


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